The claims:

1 (original). A local area network (LAN) comprising:

a plurality of hosts;

a plurality of physical routers; and

a LAN medium interconnecting the hosts and the physical routers,

wherein a first one of the hosts applies a packet of a first redundant router protocol type to the LAN medium and a second one of the hosts applies a packet of a second redundant router protocol type to the LAN medium; and

wherein the physical routers determine responsibility for forwarding a packet received on the LAN medium as a function of a redundant router protocol type of the packet.

2 (original). The LAN according to claim 1, wherein the first redundant router protocol type is Virtual Router Redundancy Protocol (VRRP) and the second redundant router protocol type is Hot Standby Router Protocol (HSRP).

3 (original). The LAN according to claim 1, wherein the plurality of hosts include one or more groups of hosts, and wherein the first host belongs to a first group of hosts having configured thereon a virtual router address of the first redundant router protocol type.

4 (original). The LAN according to claim 3, wherein the second host belongs to a second group of hosts having configured thereon a virtual router address of the second redundant router protocol type.

5 (original). The LAN according to claim 3, wherein the groups of hosts include a third group of hosts having configured thereon another virtual router address of the first redundant router protocol type.

6 (original). The LAN according to claim 4, wherein the groups of hosts include a fourth group of hosts having configured thereon another virtual router address of the second redundant router protocol type.

7 (original). The LAN according to claim 1, wherein at least one of the physical routers performs matching between prefix MAC address bits for at least one packet and pre-defined prefix bits for at least one of the first and second redundant router protocol types.

8 (original). The LAN according to claim 7, wherein the packet is routed using the virtual router address of the first redundant router protocol type if the prefix MAC address bits for the packet matches the pre-defined prefix bits for the first redundant router protocol type.

9 (original). The LAN according to claim 8, wherein the packet is routed using the virtual router address of the second redundant router protocol type if the prefix MAC address bits for the packet matches the pre-defined prefix bits for the first redundant router protocol type.

10 (original). A method of routing a plurality of packets using a plurality of redundant routing protocols, respectively, the method comprising the steps of:

receiving into a router a packet having a packet address;

comparing a prefix of the packet address with a first predefined value to determine whether the packet is of a first redundant routing protocol type; and

comparing the prefix of the packet address with a second predefined value to determine whether the packet is of a second redundant routing protocol type.

11 (original). The method of routing according to claim 10, wherein the packet address includes a Media Access Control (MAC) address.

12 (original). The method of routing according to claim 11, wherein the MAC address contains 48 bits, the prefix contains 40 bits and the first and second predefined values each contains 40 bits.

13 (original). The method of routing according to claim 10, wherein the method further comprises, if the packet is of the first or the second redundant routing protocol type, the step of formulating a key to search a database table to determine if the router is responsible for forwarding the packet.

14 (original). The method of routing according to claim 13, wherein the key includes a protocol ID to indicate the redundant routing protocol type for the packet.

15 (original). The method of routing according to claim 13, wherein the key includes a VLAN address.

16 (original). The method of routing according to claim 13, wherein the key includes a group ID to indicate a redundant routing protocol group ID associated with the packet.

17 (original). The method of routing according to claim 13, wherein the packet is routed using a virtual router address.

18 (original). A router for receiving and forwarding one or more packets, the router comprising:

first comparator for comparing a packet address prefix and a first predefined value to determine whether the packet is of a first redundant router protocol type; and

second comparator for comparing the packet address prefix and a second predefined value to determine whether the packet is of a second redundant router protocol type.

19 (original). The router according to claim 18, the router further comprising means for determining whether the router is responsible for forwarding the packet.

20 (original). The router according to claim 19, wherein the router forwards using a virtual router address, wherein the virtual router address includes a MAC address and a VLAN ID.

21 (original). The router according to claim 18, wherein the first compare means and the second compare means are implemented in a programmable packet switching controller.

22 (original). The router according to claim 18, wherein the first compare means and the second compare means are implemented in a hard-wired packet switching controller.

23 (original). The router according to claim 18, further comprising prefix match means for determining whether the packet is of a redundant router protocol type.

24 (original). The router according to claim 18, further comprising range check means for determining whether at least one of VLAN ID and redundant router protocol group ID is within a predetermined range.